Natural History of Xantus' Murrelet

The Xantus' Murrelet (a California Species of Special Concern) is one of the rarest seabirds in the world, having an estimated population of fewer than 10,000 breeding individuals. At least 3,500 live in the Southern California Bight (Carter *et al.* 1992 and Drost and Lewis 1995). The Xantus' Murrelet is a relatively small (mean mass 5-6 oz.), burrow-nesting seabird. It occurs only along the West Coast of North America, spends a majority of time at sea and comes to shore only for a few months per year to breed.

Murrelets are entirely nocturnal in their activities on shore (except for incubating birds present during the day). At Anacapa Island, murrelets begin arriving back at the breeding colony as early as late winter. During peak breeding at large colonies such as Santa Barbara Island and Los Coronados Islands, hundreds of birds may be heard calling through much of the night.

Murrelets nest mostly in natural rock crevices, caves, under shrubs; and less often, under man-made structures or earthen burrows dug by other species. Nesting habitats are often on very steep slopes and cliffs. The timing of nesting is asynchronous and varies from year to year. At Santa Barbara Island, eggs have been laid as early as mid-February and as late as mid-June; peak clutch initiation usually occurs between mid-March and mid-April. Maximum and typical clutch size is two eggs, which are laid about eight days apart. During the period between the laying of the first and second eggs, the parents do not attend the nest (at least during the day). Incubation begins when the second egg is laid, and lasts an average of 34 days. Murrelet chicks are precocial (meaning they hatch with their eyes open, and covered with down), and depart the nest to accompany the parents to sea at about two days of age. As Xantus' Murrelets are rarely seen on the water with chicks, it is assumed that family groups disperse far to sea very quickly.

Because of the murrelet chick's precocial behavior, productivity has been measured only as the number of chicks hatched per pair. At Santa Barbara Island between 1983-1995, productivity averaged 0.813 hatchlings/pair.

Several colony- and population-level threats face the Xantus' Murrelet. Major threats include: non-native predators; oil pollution; native predators; and artificial light pollution. Minor threats include: human disturbance at colonies; oceanographic and prey changes; disturbance and mortality at sea from military operations; and by-catch in commercial fisheries. Introduced predators (i.e. rats) are known to prey on murrelet eggs, and are one of the most serious threats to the Xantus' survival.

Introduced black rats on the three islets comprising Anacapa Island had serious negative impacts to the Xantus' Murrelet population. Removing rats from Anacapa Island should provide an increase in nesting habitat available to seabirds and decrease predation on eggs, chicks and adults, thereby increasing population size and breeding success.

It appears that eradication of rats is already making a difference in the nesting success of Xantus's murrelets on Anacapa Island. Researchers have not found any sign of rats or depredated eggs. This spring scientists have found 17 nests on the island including a nest the first documented nest on Cat Rock since 1927.